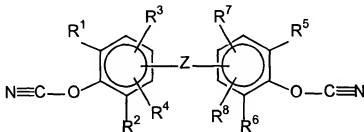


**WHAT IS CLAIMED IS:**

17. (New) An optical waveguide system or a structure or part thereof, comprising a resin composed of at least one polycyanate copolymer, obtainable by copolymerization of at least

one difunctional cyanate of formula II:



(II)

wherein R<sup>1</sup> to R<sup>4</sup> and R<sup>5</sup> to R<sup>8</sup> are independently from each other hydrogen, optionally substituted C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>3</sub>-C<sub>8</sub>-cycloalkyl, C<sub>1</sub>-C<sub>10</sub>-alkoxy, halogen, phenyl or phenoxy, the alkyl or aryl groups being unfluorinated, partly fluorinated or fully fluorinated, Z is a chemical bond, SO<sub>2</sub>, CF<sub>2</sub>CH<sub>2</sub>, CHF, CH(CH<sub>3</sub>), isopropylene, hexafluoroisopropylene, n- or iso-C<sub>1</sub>-C<sub>10</sub> alkylene, O, NR<sup>9</sup>, N=N, CH=CH, C(O)O, CH=N, CH=N-N=CH, alkyl oxyalkylene having 1 to 8 carbon atoms, S, Si(CH<sub>3</sub>)<sub>2</sub>, and R<sup>9</sup> is hydrogen or C<sub>1</sub>-C<sub>10</sub> alkyl

with at least one monocyanate of the following formula I:



(I)

wherein R is a straight or branched non-aromatic hydrocarbon radical or a non-aromatic hydrocarbon radical comprising a cyclic structure, the radical having the formula C(R')<sub>2</sub>-CFR''<sub>2</sub> wherein each R' is, independently from the other, hydrogen or fluorine or an

FINNEGAN  
HENDERSON  
FARABOW  
GARRETT &  
DUNNER LLP

1300 I Street, NW  
Washington, DC 20005  
202.408.4000  
Fax 202.408.4400  
www.finnegan.com

optionally substituted alkyl or alkenyl group, and each of R" may independently be defined as R' or may have an aryl structure.

18. (New) An optical waveguide system or a structure or part thereof according to claim 17, wherein the substituted alkyl or alkenyl group of R' is fluorinated.

19. (New) An optical waveguide system or a structure or part thereof according to claim 17, wherein the polycyanate copolymer is obtainable by copolymerization of at least one difunctional cyanate of formula II, at least one monofunctional cyanate of formula I and at least one dicyanate having formula III:



wherein R<sup>10</sup> is a non-aromatic hydrocarbon group carrying at least one fluorine atom.

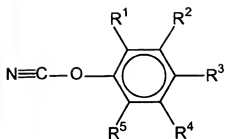
20. (New) An optical waveguide system or a structure or part thereof according to claim 19, wherein R<sup>10</sup> of formula III is a partly or fully fluorinated alkylene group having 1 to 15 carbon atoms.

21. (New) An optical waveguide system or a structure or part thereof according to claim 20, wherein the partly or fully fluorinated alkylene group has 3 to 12 carbon atoms.

22. (New) An optical waveguide system or a structure or part thereof according to claim 19, wherein the polycyanate copolymer is obtainable by copolymerization of at least one difunctional cyanate of formula II, at least one monofunctional cyanate of formula I, optionally at least one dicyanate having formula III, and a monocyanate of formula IV

10019447.050602  
A<sup>2</sup>  
FINNEGAN  
HENDERSON  
FARABOW  
CARRETT &  
DUNNER LLP

1300 I Street, NW  
Washington, DC 20005  
202.408.4000  
Fax 202.408.4400  
www.finnegan.com



(IV)

wherein R<sup>1</sup> to R<sup>5</sup> are defined as in formula II.

23. (New) An optical waveguide system or a structure or part thereof according to claim 19, wherein the polycyanate copolymer is obtainable by copolymerization of at least one difunctional cyanate of formula II, at least one monofunctional cyanate of formula I, and at least one brominated monocyanate of formulas I to III, as defined above with the proviso that the monocyanates of formula I may be free of fluorine.
24. (New) An optical waveguide system or a structure or part thereof according to claim 23, wherein the at least one brominated monocyanate is of formula I as defined above with the proviso that the monocyanates of formula I may be free of fluorine.
25. (New) An optical waveguide system or a structure or part thereof according to claim 17, wherein the monocyanate of formula I is used in an amount of at least 10% by mol per mol of the polycyanate copolymer.
26. (New) An optical waveguide system or a structure or part thereof according to claim 17, wherein the monocyanate of formula I is used in an amount of at least 20% by mol per mol of the polycyanate copolymer.
27. (New) An optical waveguide or a structure or part thereof according to claim 17, wherein the polycyanate copolymer has a glass transition temperature of from 100°C to 300°C or a refractive index of about 1.35 to about 1.60 at 1.55μm or a glass transition

A<sup>2</sup>

10019447-050602

FINNEGAN  
HENDERSON  
FARABOW  
GARRETT &  
DUNNER LLP

1300 I Street, NW  
Washington, DC 20005  
202.408.4000  
Fax 202.408.4400  
www.finnegan.com